

## **REMARKS**

Pursuant to 37 C.F.R. §1.111, reconsideration of the instant application, as amended herewith, is respectfully requested. No amendment to the claims are herein presented.

Claims 112-124, 125-130 and 132-135 are presently pending before the Office.

The Examiner's Action mailed February 13, 2006 has been carefully studied by Applicant and the undersigned counsel.

The examiner has rejected the claims based on 35 USC 101 alleging that the invention is inoperative. The examiner paraphrases a quotation from the specification of the present invention:

The exposure of a gas at atmospheric pressure to an electric arc may also create magnecules. They are generated, however, in such small numbers as to be undetectable. Accordingly, these magnecules have no industrial or consumer value such as those that may be created by the arc disclosed in an unrelated invention described in U.S. Patent No. 5,487,874 to Gibboney, Jr. Therefore, the exposure of a molecular species of gas to an electric arc leaves the original molecular species mostly unchanged in the sense that the species remains an essentially pure population of conventional molecules with only traces of magnecules. Accordingly, only when a gas is forced to pass at very high pressure through a restricted area surrounding an electric arc of a PlasmaArcFlow Reactor of the present invention can the chemical species of magnecules be produced in which a chemical species of molecules is turned into an essentially pure population of magnecules. Therefore, a well sustained pressure of about 100,000 psi is necessary, as well as other requirements discussed below, to achieve the formation of an essentially pure population of magnecules, such as that created in the PlasmaArcFlow Reactor. This sustained high pressure and other requirements, however, are not taught, disclosed or suggested by Gibboney.

However, this statement is being read out of context. The examiner is reading the statement to conclude that the species as claimed can not exist. This is not what applicant has stated. He is stating that the extent to which the Gibboney arc may create a specie because of the arc, any created specie would immediately be destroyed by the same arc to revert back to its conventional molecular form.

Applicant first spent several years researching his theory and mathematically predicted the existence of the clustered specie. He found that the specie could be created and collected as a

pure population of the specie if the material being subjected to the arc was moved through and away from the arc at a high pressure through a restricted area surrounding the arc using processes and equipment such as those disclosed U.S. Patents related to the PlasmaArcFlow™ process and equipment already issued to Applicant and, more importantly, as disclosed in the present invention. By collecting the created specie, applicant has in fact proved the specie does exist.

Further, applicant has explained in significant detail that the specie is repeated identifiable using technology such as a MS-GS equipment. In order to provide for a distinguishable characteristic over a conventional molecule or atom in the claims, applicant has claimed the following limitations:

- the clusters are detectable via peaks in mass spectrometry that are unidentifiable as a known conventional molecule, and
- the clusters have no infrared signature for a gas or ultraviolet signature for a liquid under currently available detectors except corresponding signatures of conventional molecules or dimers constituting the clusters.
- the species are formed by subjecting a substance to any one of an external magnetic field, external electromagnetic field, microwave, pressure, friction, and any combination thereof.
- the infrared signatures for gases or ultraviolet signatures for liquids due to conventional molecules and dimers constituting the clusters are altered because of the presence of peaks not existing in conventional signatures.
- the average density of the clusters is greater than that of the corresponding conventional molecules constituting the species and any of their combination under the same conditions of volume, pressure and temperature.

Taking one limitation at a time, applicant is claiming that the clusters are detectable via peaks in mass spectrometry. However, the detected peaks do not match up with known conventional molecules pre-programmed in the equipment software. **The clusters are nevertheless detected.**

When looking at UV and IR signatures, signatures are detected for the conventional molecules that constitute the clusters but again, no signature is present for the cluster itself, presumably because of its heretofore unknown structure that has yet to be programmed in the software or the lack of equipment to recognize these signatures, but the point is the clusters were

themselves detected as shown in the MS-GS drawings detailed in the specification. Consequently, the infrared signatures for gases or ultraviolet signatures for liquids due to conventional molecules and dimers constituting the clusters are altered because of the presence of peaks not existing in conventional signatures

As alluded to by the above quotation from the specification, which is one method to create the specie, there are several methods that applicant has shown and described in the specification under which the claimed specie can be created. For example, the species can be formed by subjecting a substance to any one of an external magnetic field, external electromagnetic field, microwave, pressure, friction, and any combination thereof.

One thing is very clear from the repeatable data where the cluster peaks are detected, the average density of the clusters is greater than that of the corresponding conventional molecules constituting the species and any of their combination under the same conditions of volume, pressure and temperature. This makes sense as the weight of a cluster (because of the magnecular characteristic of the specie structure) must be greater than that of a conventional molecular.

Consequently, Applicant respectfully brings to Examiner's attention that this patent application has not been filed to patent theories, but it has been filed to patent a new chemical specie established by "experimental evidence" beyond credible doubt, whatever its theoretical interpretation.

Consequently, applicant has restricted this patent application to its true nature: the vast experimental evidence on a new chemical species carrying the signature of the Directors of various independent analytic laboratories as specified in the specification.

Again, all this is asserted in the detailed description of the invention section of the present invention. Thus far in the prosecution of this application, the details of this section have been summarily dismissed based on an assumption that it need not be considered as the specie just cannot exist. This ignoring of the specification is unreasonable and without basis. As a minimum, the examiner should point out specifics as to where the specification is in error and why. To date, no such specifics have been offered.

Accordingly, Applicant respectfully requests withdrawal of the rejection under 35 USC 101.

Similarly, the examiner has rejected the claims under 35 USC 112, first paragraph, as failing to comply with the enablement requirement, alleging that the specification does not describe in such a way as to enable one skilled in the art to make or use the invention. As mentioned above, again the examiner summarily dismisses the exceptionally detailed section of the invention that provides instructions on how to build and operate equipment to make the inventive specie and additional testing data from independent labs that verify the created specie. Anyone skilled in piping, metal fabrication, and electrical work can build equipment to make the invention using the operating parameters detailed in the invention. Collected gas can then be sent to independent labs and the data in the application for verification purposes, if desired, and the application data will be repeated. Further, the use of the species as a combustible gas clearly shows that its emissions are extremely clean. Videos have been sent to the examiners detailing typical equipment used to make the invention and demonstrating its use.

The Examiner had previously alluded to or impliedly suggested that the evidence was not independently derived. This allegation is far from the truth. The test facilities at McClellan Air Force Base, the Moroso International Track in West Palm Beach, the US testing Company, Inc. of Fairfield, New Jersey, the Dept. of Chemistry at Florida International University in Miami and others are all test facilities for which Applicant, Dr. Santilli, has no relationship and affiliation. They are clearly independent testing facilities that have substantiated his findings. In addition, noted scientists from around the world have recognized his findings as noted below.

The Examiner recites several factors to be considered when determining whether a disclosure would require undue experimentation.

Breadth of the claims: the invention is operable. Applicant discloses an example of apparatus that can create the species. The produced product has characteristics such as atomic mass weight described in the specification. Taking a sample of the product to a test lab such as those described in the specification will obtain similar spectrometry data as that obtained by applicant, thereby confirm the resultant product. And using the produced product, for example as a fuel, will produce toxic emissions levels in automobiles equipped without catalytic converters, which are negligible or significantly lower than automobiles with catalytic converters. None of the steps, by any stretch of the imagination could ever be considered undue experimentation.

Nature of the invention: vast numbers of internationally well known scientists and organization have recognized the invention. The examiner states that the majority of the scientific community has held that applicant's invention is not attainable. No specific evidence of reliance is being pointed out to applicant thereby denying applicant the opportunity to rebut any such opinion.

As stated, the examiner has stated that "the vast majority of the scientific community has held the belief that a population of clusters (as claimed by applicant) is not attainable," and there "is no prior art showing materials that qualify as a population of clusters." There is no prior art because it is a novel finding. But more importantly, applicant's work has been published in world wide Journals including the International Journal of Hydrogen Energy (3 articles and 1 in press), Kluwer Publications, among others. The examiners have been provided videos demonstrating how the new species is created and showing its use in automobiles. The specification includes test data verifying the resultant new species. When confronted with all this, the examiner and her supervisor have simply dismissed it as because the scientific community has yet to GENERALLY accept the invention, then it just can not exist. No technical reasons have been provided yet for any rejections other than it just can not exist.

The fact is that very few scientist in the academia currently research in this field as the potential for energy use for the current invention will alleviate the need and use of petroleum based energy, a technology which is the bread and butter of many scientists throughout the world. However, more and more scientists are looking into alternative fuels and as a result are taking a serious look at applicant's technology. Hydrogen Technology Applications, Inc. of Clearwater, Florida is now using the technology in electrolyzer systems and is currently developing its use throughout Europe and China and has been in serious dialog with the Department of Energy regarding the stable production of hydrogen clusters for automobiles. Applicant has sold equipment to produce the invention throughout the world, including Italy, China, Greece and Israel. Test results have been indisputable that the produced gas is in cluster form, especially when considering the resultant increase of a.m.u. of a cluster of atoms.

In addition, several scientists have now generally accepted the work of applicant. Some of the declarations from just a few of these scientists are attached herein as proof that the examiner's summary statement, without support, that the scientific community has not accepted

applicant's theory of magneucules is without basis. See statements of Professors Erik Trelle, Ing. Giorgio Beghella Bartoli, T. Nejat Veziroglu of the United Nations Industrial Development Organization, Jeremy Dunning-Davies, Stein E. Johansen, Horst E. Wilhelm, A.O.E. Animalu, and Ronald B. Cole, Director of Applied Hadronics in Ukiah, California. Additional scientists have expressed a willingness to submit a declaration but are delayed in doing so because they are traveling. On receipt of any additional declaration, applicant will provide such additional declarations to the examiner in due course.

As Dr. Johansen states in his declaration:

"A notion of 'THE scientific community' is nowadays a mythic construct which does not give much justice to the empirical situation, and hence not a proper descriptive category. Each discipline, for example physics, does not anymore constitute a unitary and coherent scientific community with a high degree of transparency, attention and information flow between the different segments of the field. In spite of such compartmentalisation, the discipline could be said to be highly coherent if the specialists were working at different parts from a common understanding of the global scientific building as a whole. But when scientific revolutions, lifting the discipline or a cluster of disciplines by reconfiguring the theoretical basics, take place, as has been the case with the hadronic sciences, the over-all situation is NOT coherent anymore, and most specialists do NOT have knowledge about or pay attention to the basic revolutions, and do NOT have any adequate and up-to-date understanding of the global scientific net."

But the current examiner and her supervisor have chosen to ignore the analytical results of these labs (detailed in the specification) because it means that a new species has been created that is stable for use, yet such a specie cannot exist in the minds of the examiners because the species is not readily understood using chemistry as we know it today. They ignore the detailed analysis described in the specification. Because this is evolving technology, there is no prior art that the examiners can find so instead of allowing the claims, the examiner have taken an unreasonable position that absent prior art and recognition from MOST scientists, then the invention must be non-existent. When in fact, several systems have been built and sold worldwide where the new species is being produced and produced gas representative of the new species has found worldwide acceptance, especially in Europe and Asia.

Applicant respectfully requests that the examiner point out why the attached declarations of so many noted scientist, including Dr. Vexiroglu from the United Nations Industrial Development Organization and who is an editor-in-chief of the International Journal of Hydrogen Energy. Other declarants are from independent organizations and universities from around the world, for example, Declarant Erik Trell describes in detail the acceptance of the invention by SINTEF, the Norway, State Natural Science and Technology Research Institute, the invention is being utilized at the Monza Research Institute according to Prof. Bartoli, etc.

**These declarants have all made several rebuttal comments regarding each rejection issue raised by the examiner and all such remarks are herein incorporated by reference in this response.**

State of the prior art: there is no prior art as applicant is the first to discover the new species. See the numerous comments on this matter raised by the declarants, which are incorporated by reference herein.

Level of one of ordinary skill: Although someone with a scientific mind such as that of applicant may be needed to discover and fully understand how to collect a stable species according to the invention, anyone who knows how to fabricate piping systems, can manufacture the new species according to the specification disclosed.

Predictability: Applicant disagrees with the Examiner and asserts that the production of the species is predictable as disclosed by applicant in the specification. There is no question that the production of gas has already been achieved with repeated reliability and predictability and the gas has been used in combustion engines such as the Honda and Ferrari originally described in the specification. In addition, the data in the specification drawings clearly demonstrate the presence of the produced species.

Amount of direction by the Inventor: The Examiner states that it is his opinion that the inventor has not provided sufficient guidance throughout the specification to enable one of ordinary skill to make and use the invention. This opinion is absolutely without basis or merit. One example of equipment to mass produce the species is described in detail in the specification and schematically depicted as renumbered replacement sheet Figs. 20 and 21.

The Examiner states that there would be long and tedious trial and error. Again this conclusion or opinion is without merit. The collected gas made from the apparatus described in

the specification is in fact a pure population of the new species of clusters. Absolutely no trial and error is needed.

Again, the declarations attached herein further demonstrate that the direction provided thus far by the inventor has been deemed acceptable by the scientific community.

The existence of working examples and quantity of experimentation needed to make or use the invention: Contrary to the Examiner's implication, the working samples are readily produced and can be sent to labs such as McClellan just as applicant did. There is no unpredictability issue as the gas can be readily produced as discussed above.

Applicant has not ruled out the use of conventional experiments to detect the clusters as opined by the Examiner. Although there may be a lacking of signature, applicant notes that the weight or atomic mass units is higher thereby confirming the clustering.

Regarding the examiners statement related to "a patent is not a hunting license", applicant herein incorporates by reference the several comments made by various scientists-declarants rebutting the position of the examiner that the scientific community has yet to accept applicant's invention, which are not theories, but proven reality.

Accordingly, applicant requests that the examiner withdraw the rejection under 35 USC 112, second paragraph.

**THE EXAMINER SHOULD NOTE THAT APPLICANT HAS ALSO PETITIONED THE OFFICE TO TRANSFER THIS CASE TO ANOTHER EXAMINER IN ANOTHER ART GROUP FOR THE REASONS STATED THEREIN WHICH ARE INCORPORATED BY REFERENCE HEREIN. THE PETITION WAS FILED ON JULY 12, 2006.**



CONCLUSION

A Notice of Allowance is earnestly solicited.

If the Office is not fully persuaded as to the merits of Applicant's position, or if an Examiner's Amendment would place the pending claims in condition for allowance, a telephone call to the undersigned at (727) 943-9300 would be appreciated.

Very respectfully,

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